

**ABSTRACT OF THE DISCLOSURE**

**METHOD OF TRANSPARENTLY REDUCING POWER CONSUMPTION OF A  
HIGH-SPEED COMMUNICATION LINK**

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A method of reducing power consumption while maintaining performance characteristics and avoiding costly over-design of a high-speed communication link embedded in  
10 an SOC is provided. The method includes synthesizing the communication link at a reduced voltage to determine and isolate circuitry that is supply-voltage-critical from circuitry that is non-supply-voltage-critical. The supply-voltage-critical circuitry contains components that may not  
15 operate at the reduced voltage without degrading the performance characteristics of the communication link. A non-reduced voltage is used to drive the supply-voltage-critical circuitry while the reduced voltage is used to drive the non-supply-voltage-critical circuitry. The  
20 reduced voltage is generated using a voltage regulator embedded in the communication link.